

July 1991



Proposed Plan for a Cleanup of the Warm Waste Pond Sediments at the Test Reactor Area at the Idaho National Engineering Laboratory

This Proposed Plan describes an interim action, a cleanup, that is proposed to reduce the potential hazard from the sediments of the Warm Waste Pond at the Test Reactor Area (TRA) at the Idaho National Engineering Laboratory (INEL). The interim action will comply with CERCLA (the Superfund law), NEPA (the environmental impact law), and HWMA (Idaho's hazardous waste law). The Department of Energy, Environmental Protection Agency, and the Idaho Department of Health and Welfare (the Agencies) are seeking comments from the public on this Proposed Plan.

This Plan, submitted in accordance with Section 117(a) of CERCLA, highlights the interim action preferred by the Agencies. The actual remedy selected may be the preferred alternative, a modification of it, a combination of elements from some or all of the alternatives, or another identified response action. Comments are being solicited on all of the alternatives, not just the preferred alternative. The alternative to be used to cleanup the Pond sediments will not be selected until the public comment period has ended and all comments have been received and considered.

How you can participate - The public is encouraged to participate in the remedy selection process. You can participate by reading this Proposed Plan, reading additional documents in the Administrative Record (information used to select a remedy), by visiting one of the information repositories listed on page 9, and attending one of the five public meetings listed on the back page. Written comments are given equal consideration as verbal comments and can be submitted to Jerry Lyle at the address on page 10. All comments and transcripts of meetings will

become part of the Administrative Record. Questions should be directed to the INEL Community Relations Office at the address listed on page 10.

Background

The INEL is an 890 square mile federal facility operated by DOE whose primary missions are nuclear reactor technology development and waste management. In November 1989, the INEL was put on the National Priorities List (NPL) because releases of hazardous substances have occurred which may pose a risk to human health and the environment. Under CERCLA, the risks posed by those substances at the sites on the

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PUBLIC COMMENT PERIOD
July 29 - August 28, 1991

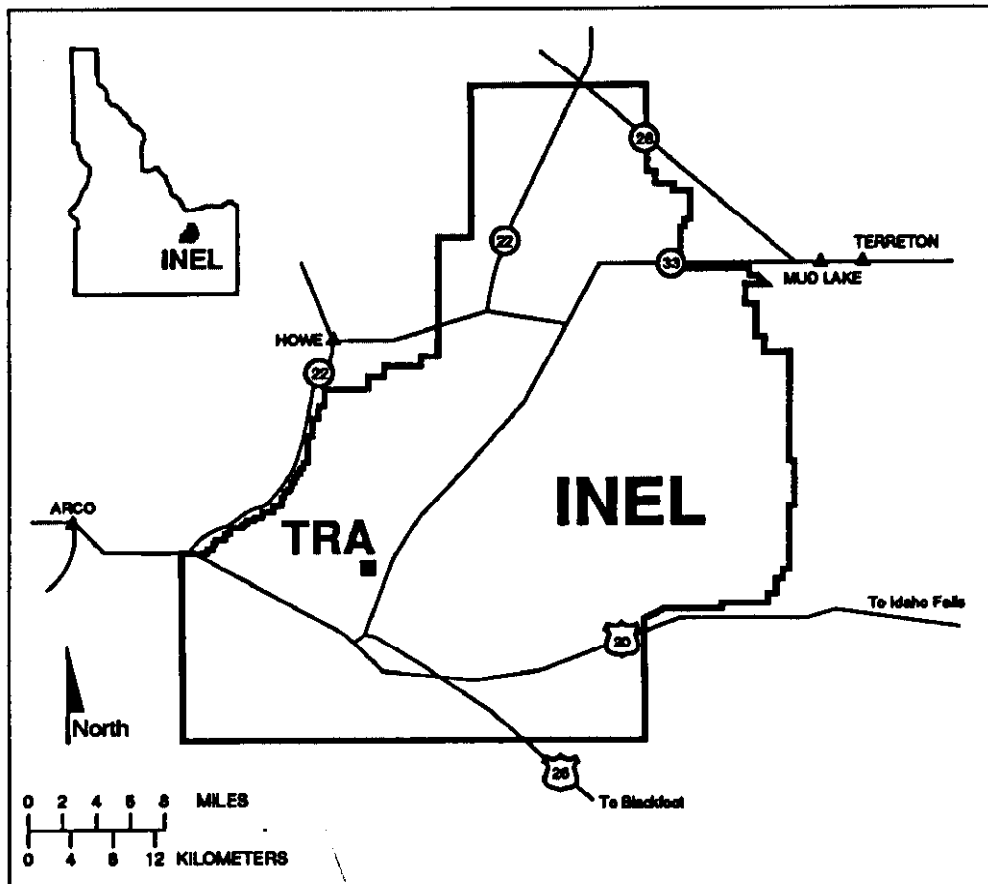
NPL must be evaluated and appropriate cleanup methods selected and implemented to reduce those risks. In addition to CERCLA, DOE has considered environmental impacts of the cleanup alternatives under the NEPA.

To better manage the investigations needed to determine appropriate remedial actions, the INEL has been divided into 10 waste area groups (WAGs). Each WAG is in turn divided into operable units to make characterization and cleanup activities easier to manage and to expedite total site cleanup. This strategy allows the Agencies to focus available cleanup resources on those areas which could potentially pose the greatest risk to public health and the environment. The sediments of the TRA Warm Waste Pond have been designated Operable Unit 2-10 under this management scheme.

A schedule for the characterization and cleanup of each operable unit is in the draft Interagency Agreement (IAG) and Action Plan, documents which have been negotiated between the Agencies and which will be available for public comment later this year. These documents provide procedures and processes by which cleanups at the INEL will be conducted to comply with State and Federal environmental laws as required by CERCLA. The WAG-wide Remedial Investigation/Feasibility Study (RI/FS) for WAG 2 is scheduled to be completed in 1997. By starting the interim action process now, cleanup activity on the Warm Waste Pond sediments will begin much earlier than if it followed the RI/FS.

Site Description

The Test Reactor Area is located in the southwestern portion of the INEL (see map this page). The Warm Waste Pond is located approximately 200 ft east of TRA and consists of three wastewater infiltration/evaporation cells (see map next page). In the past, the Warm Waste Pond was used for disposal of nuclear reactor cooling water, radioactive wastewater, and discharge from water treatment systems. The Warm Waste Pond is currently used only for disposal of



Test Reactor Area (TRA) at the Idaho National Engineering Laboratory (INEL)

reactor cooling water containing low levels of radioactivity. This water passes through the contaminated sediments potentially leaching the contaminants into the underlying groundwater. The effects of this leaching is being investigated through an ongoing investigation to be completed next year.

Summary of Site Risks

Contaminants of Concern

The contaminants of greatest concern are the radionuclides, cesium and cobalt. Other contaminants include the radioactive contaminants; americium, chromium, curium, europium, plutonium, silver, strontium, thorium, and uranium and the nonradioactive contaminants; arsenic, beryllium, bis (2-ethylhexyl) phthalate, cadmium, chromium, cyanide, lead, mercury, silver, sulfide and zinc.

Cesium-137 was found in concentrations ranging from 2.9 to 39,400 picocuries per gram (see glossary). Cobalt-60 was found in concentrations from 0.2 to 27,100 picocuries per gram. Concentrations greater than 2,000 picocuries per gram are found throughout the three cells but in only two locations were found at depths below 2 feet.

Risk Assessment

An analysis was conducted to estimate the human health and environmental problems that could result if an interim action was not implemented to reduce risk quickly at the site. Risk to human health and the environment must be evaluated to determine whether significant risk(s) exists (see box next page). Interim actions are intended to be compatible with final actions whenever possible and the decision to proceed is based on the best available information at the time. Additional information on the risk assessment for the Warm Waste Pond is in the Administrative Record.

Human Health Risks

Three types of exposure were evaluated for human health risk assessment: inhalation of contaminated soil, external exposure to radiation, and ingestion of contaminated soil. The risk due to ingestion of groundwater is being assessed in an ongoing investigation to be completed next year.

Inhalation of chemical and radiological contaminants was studied. Concentrations of particulates in the air have been measured at TRA. By assuming that those particulates contain the same amount of contaminants as the dry sediments of the Warm Waste Pond, a "worst-case" estimate was made of the concentration of the contaminants which could be inhaled. The

following contaminants were evaluated for non-carcinogenic effects: arsenic, beryllium, bis (2-ethylhexyl) phthalate, cadmium, chromium-III, cyanide, mercury, lead, silver, and zinc and, in all cases, these contaminants were well below levels known to pose a human health risk.

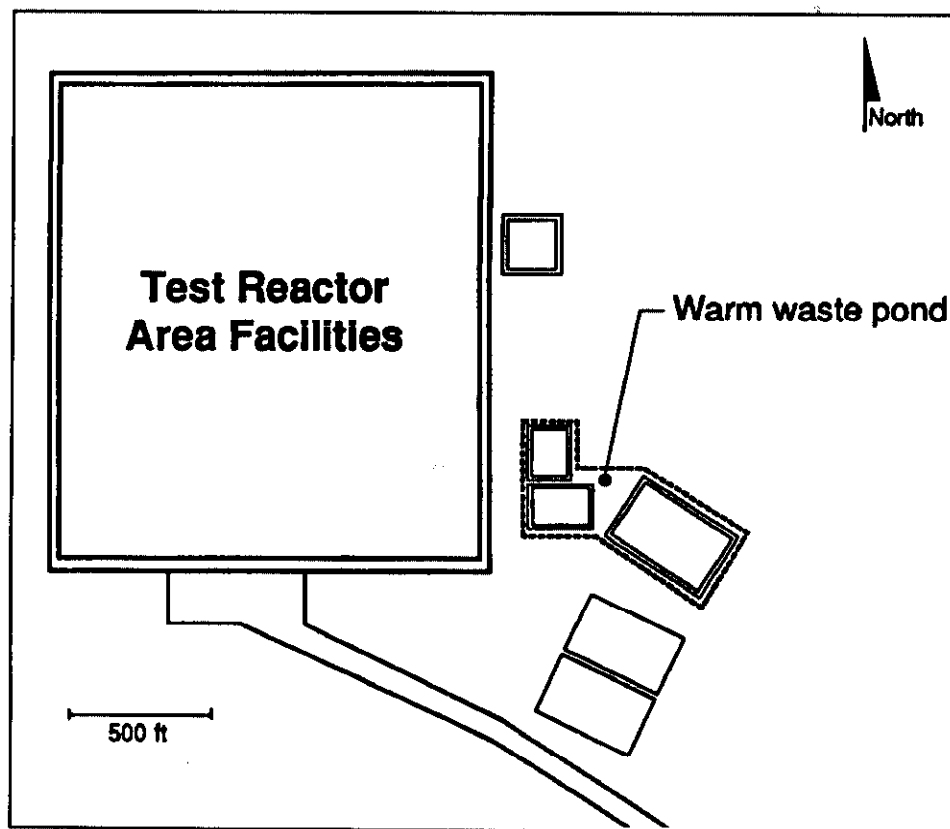
Carcinogenic effects were evaluated to determine the potential increase in cancer deaths due to contaminants. As described in the National Contingency Plan (NCP), an excess cancer risk in the range of 1 chance in 10,000 to 1 chance in 1,000,000 is considered to be the maximum acceptable. The total cancer risk for the inhalation of the nonradioactive contaminants was below the recommended NCP target risk range. However, for the sixteen radionuclides evaluated for carcinogenic effects, the sum of the excess cancer risks associated with inhalation of the radioactive contaminants approaches the upper limit of the recommended NCP target risk range.

The carcinogenic effect due to external exposure to radiation was also evaluated. Although the actual radiation levels in the pond are as high as 125 mrem per hr (see glossary), it was assumed that the dose the receptor could receive was 5 mrem per hour due to access restrictions which are strictly enforced. The carcinogenic risks due to the external exposure to radionuclides were found to be significantly above the recommended NCP target risk range.

The risk due to ingestion of soil was examined to determine whether it should be used as a criterion when evaluating the remedial alternatives. The ingestion assessment, assuming reasonable worst-case conditions, found that the potential risk due to ingestion, particularly cesium approached the upper limit of the recommended NCP target risk range.

Environmental Risks

An environmental risk assessment attempts to determine the adverse risks to populations or communities of organisms rather than the risks to individuals as in human health evaluation. There are two major routes by which individual plants and animals can take up contaminants and by which toxins are introduced in the food web at the Warm Waste Pond. These are ingestion of contaminated soil and water by animals and plant uptake



Warm Waste Pond at the Test Reactor Area

What is a Risk Assessment?

Methodology to conduct a quantitative risk assessment is recommended by the EPA in guidance documents. The risk assessment for an interim action evaluates the most likely, rather than all possible, routes of exposure. First, the contaminants of concern are identified and the level of those contaminants determined. Second, the means by which an individual could be exposed are determined. An example would be the inhalation of airborne contaminants by a worker. Third, the location of a potentially affected individual and the amount of time the individual spends at that location have to be assumed. Generally, a range of scenarios is evaluated (see glossary). Fourth, the amount of the contaminant that will make it to the receptor from the source (the Pond sediments) is estimated. Finally, the intake or exposure received by the individual at the assumed location is compared to values known to pose risks. The excess carcinogenic and non-carcinogenic risks from the site are then determined, with risks above the recommended acceptable levels requiring cleanup.

of toxins from contaminated soil and water. Based upon available environmental toxicity data, five contaminants in the Warm Waste Pond sediments are present at levels great enough to be a potential risk to individual plants and animals including arsenic, cadmium, chromium, iodine-131 and zinc.

No threatened or endangered species, wetlands, or cultural or historical resources have been found at the Warm Waste Pond (additional information is available in the Administrative Record and at the information repositories). There is no reason to believe that any social, economic, or paleontological values will be diminished.

The interim action is intended to have a positive impact on the area and all of the alternatives evaluated would improve the environment at the Warm Waste Pond. None of the alternatives considered would release contamination to surface or ground water. Fugitive dust emissions will be controlled to prevent airborne contamination and ensure worker safety. Any wastes generated will be properly disposed of.

Purpose and Need for Interim Actions

The purpose of an interim action is to cleanup sites to eliminate, reduce, or control hazards posed by a site or to expedite the completion of total site cleanup. In this case, both objectives will be met. The Agencies recognize that adequate data exist and technology is available to start cleanup activities at this site. These actions, called interim actions, may not be the only cleanup that is needed at the waste site, or serve as the final disposition of the waste, but is a "common sense" approach where gross contamination exists. Interim actions must also be consistent with, and not interfere with, any planned future actions.

The Warm Waste Pond interim action is intended to reduce the exposure to radiation, limit the possible future ingestion of contaminated soil and possible inhalation of airborne radioactive contaminants. It will also expedite total site cleanup.

What are the Interim Action Alternatives?

The following alternatives were evaluated as possible interim actions at the Warm Waste Pond:

Alternative 1 - No action
(for comparison purposes only)

Alternative 2 - Capping

Alternative 3 - Stabilization

Alternative 4 - Chemical extraction and/or physical separation.

These alternatives were chosen because they offer the potential for a permanent remedy. Further information is available in the Administrative Record.

Summary of Alternatives Analyzed in Detail

The four alternatives are described below. The costs presented are estimates. Actual cost would vary based on the final design and detailed cost itemization. All estimates are based on allowing the current pond to dry up following the construction and operation of a new lined, evaporation pond. The cost estimates

contain all expected expenses including design, project management, subcontract fees, etc., but do not include costs for the new pond which is funded separately from the cleanup program. None of the estimates include significant operating expenses beyond the completion of the interim action.

Alternative 1 - No Action

Under the no action alternative, which is presented only for comparative purposes, no remedial action would be implemented. Additional institutional controls, such as signs or fences, could be initiated. Under the no action alternative, no immediate risk reduction would be accomplished and only decay and dispersion of the radionuclides over time would reduce the risk. No significant costs would be associated with the no action alternative.

Alternative 2 - Capping

This alternative involves filling the Warm Waste Pond with backfill, covering the backfill with an impermeable material such as clay, grading the surface and constructing ditches to direct rainwater and snow melt away from the Pond, and planting vegetation to ensure the stability of the cap. Design criteria are assumed to be equivalent to a low-level radioactive waste disposal site closure, which include a low-permeability layer, middle drainage layer, and a barrier to prevent impacts from plants and animals. Estimated cost - \$2,786,000.

Alternative 3 - Stabilization

This alternative involves mixing the sediment with a cement-like mixture forming a solid mass which mechanically or chemically bonds the contaminants to the sediment/cement combination. The cost estimate

Evaluation Criteria

EPA evaluates the alternatives against the following nine criteria:

Overall Protection of Human Health and the Environment. Whether a remedy provides adequate protection and how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with Federal and State Environmental Standards. Whether a remedy will meet all of the applicable or relevant and appropriate requirements (ARARs) of Federal and State environmental statutes, or provide grounds for invoking a waiver.

Long-term Effectiveness and Permanence. The magnitude of any remaining risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.

Reduction of Toxicity, Mobility, or Volume through Treatment. The anticipated performance of the treatment technologies that may be employed.

Short-term Effectiveness. The speed with which the remedy protects human health and the environment, as well as the remedy's potential to create adverse impacts during the construction and implementation period.

Implementability. The technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement the chosen solution.

Cost. Includes capital, operations, and maintenance.

State Acceptance. Indicates whether, based on its review of the Proposed Plan and supporting documents, the State concurs with, opposes, or has no comment on the preferred alternative.

Community Acceptance. Will be assessed in the Interim Remedial Action Record of Decision following a review of public comments received on the Proposed Plan and supporting documents.

is based upon stabilization using commercially available soil blending equipment, backfilling to ground level, revegetation, and assumes site preparation to reduce worker risk during implementation. Total estimated cost is \$5,296,000.

Alternative 4 - Chemical Extraction/ Physical Separation

Chemical extraction methods use water, acids, or salts to extract contaminants from the soil. The extract is then treated using precipitation, solvent extraction, ion exchange, or physical separation techniques. Physical separation processes are mechanical methods of separating mixtures of solids to obtain a concentrated form of the contaminants. These include wet or dry screening, flotation, classification, gravity concentration, sedimentation, and filtration. The contaminated sediment would be excavated from the pond, pretreated and processed. In the case of the Pond sediments, it is expected that the volume of contaminated sediment can be significantly reduced due to the distribution of the contaminants on fined-grained particles. The contaminants would then be chemically extracted from that reduced volume. The clean sediment would then be returned to the pond. The concentrated residual waste would be treated as necessary and managed on site until a final remedial decision is reached. Currently a treatability study is

ongoing to determine the most cost effective technique or combination of techniques. A pilot-scale test would likely be required. The estimated cost including backfilling the pond to ground level and the pilot-scale test is \$6,895,000.

Comparative Analysis of Alternatives

The Agencies evaluated the first 7 of the 9 criteria established by the National Contingency Plan (see box previous page). The box on this page summarizes that evaluation. The eighth criterion, State Acceptance, is addressed on page 9. The ninth criterion which cannot be evaluated in the Plan is public acceptance, which will be evaluated in the Interim Action Record of Decision based upon public comments.

Overall Protection of Human Health and the Environment

The primary risk to be reduced is external exposure to radiation, with secondary objectives of reducing concentrations of radioactive contaminants that could be ingested at some future time, and reducing airborne radioactive contaminants.

Comparative Analysis of Alternatives

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	No Action	Capping	Stabilization	Chemical/ Physical Extraction
Human Health and Environment	Ø	○	●	●
Environmental Laws	Ø	●	●	●
Long-Term Effectiveness	Ø	○	○	●
Reduction of Toxicity, Mobility, or Volume	Ø	Ø	○	●
Short-Term Effectiveness	Ø	○	○	○
Implementability	●	●	○	○
Cost	●	●	○	○

- Remedy meets the criterion
- Remedy partially meets the criterion
- Ø Remedy does not meet the criterion

Alternatives 2, 3, 4 reduce the external exposure to radiation and reduce or eliminate airborne contaminants. Alternatives 3 and 4 reduce potential ingestion of soil. Alternatives 2, 3, and 4 minimize percolation of rain and snow melt through residual contaminants. The no action alternative reduces none of the risks and a continuing risk to human health would exist.

Compliance with ARARs

There are three types of applicable or relevant and appropriate requirements (ARARs) (see glossary): chemical-specific, action-specific, and location-specific.

Chemical-specific: There are no chemical-specific ARARs governing clean-up levels of radioactively-contaminated soil, so data from a risk assessment is utilized. Federal and state regulations concerning water quality are not applicable because the interim action does not deal with surface water or groundwater contamination, which is being examined in an ongoing study to be completed next year. If any water is generated during the cleanup, it will be treated prior to disposal. Engineering practices will be utilized to the extent necessary to ensure federal and state regulations concerning air quality are met. The sediment is not hazardous waste as described in RCRA, based upon tests conducted in 1990. **Action-specific:** The substantive standards for an air quality permit will be met if a large amount of dust will be potentially generated during the remedial action. If a hazardous or mixed waste is to be disposed of, RCRA disposal requirements will be met. **Location-specific:** There are no location-specific ARARS which impact this interim action.

Alternatives 2, 3, and 4 comply with all ARARs by utilizing good engineering practices to minimize dust and wastewater generation, and appropriate disposal methods. The activities performed under this interim action will be conducted in accordance with NEPA, and will not create a significant environmental impact,

individually or cumulatively, and will not limit the choice of remedial alternatives for this action or other operable units within the waste area group. An Environmental Assessment is being prepared for this interim action. The interim action should not complicate nor delay the overall site cleanup. Alternative 3 may interfere with the overall site cleanup.

Long-term Effectiveness and Permanence

Alternative 4 provides long-term effectiveness by removing a large amount of contaminants from the sediments. Alternative 2 provides long-term reduction of risk to the extent that the integrity of the cap can be assured. A cap is designed to last 100 years, although that technology is unproven for that length of time. The effectiveness of Alternative 3 is uncertain beyond 10-20 years. Alternative 1 provides no risk reduction and it could take over 400 years for the cesium to naturally decay to an acceptable level. Alternative 4 would remove most of the cesium from the pond sediments and would create a concentrated residual which will be treated to meet acceptance criteria for storage and/or disposal at the appropriate type of storage or disposal facility.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 4, through treatment of the sediment, would reduce the volume of contaminated material and reduce the toxicity of treated sediment by removing and concentrating the contaminants. The concentrated residual would then be treated. This alternative would likely involve an innovative treatment technology. Alternative 3 would reduce the mobility of the contaminants, but would increase the volume. Depending on the contaminants, this process may not qualify as a treatment. Alternative 2 does not involve any treatment and therefore does not meet this criterion. Alternative 1 does not achieve any of the goals.

Total Cost Comparison (*in thousands of dollars*)

Alternative	Capping	Stabilization	Extraction/ Separation
Construction and operation ^a	\$2,113	\$3,480	\$4,704
Contingency ^b	423	696	941
Design	250	400	500
Treatability Study	0	720	750
TOTAL	\$2,786	\$5,296	\$6,895

^a See Table on next page

^b Assumed to be 20% of construction and operating costs

Short-term Effectiveness

Because start up of the interim action should take place during the warmer months, it is anticipated that any of the alternatives would begin in 1992. Alternative 2 can be implemented the quickest because it is a common remedial action and involves readily available technology. Alternative 3 would require a treatability study to determine the best stabilization agents and procedures. Alternative 4 would require a treatability

study to determine the most cost effective implementation equipment and procedures. In the case of Alternatives 2, 3, and 4, dust suppression during implementation would be a design criteria and would be monitored during the remedial action to ensure worker protection. It is expected that implementation of Alternative 2 would take 9 months, Alternative 3 would take 12 months, and Alternative 4 would take 16 months.

Construction and Operating Costs

Alternative 2 - Capping

Backfill Materials ^a	64,000 yd ³ @ \$2.50/yd ³	\$160,000
Capping Materials ^b	80,000 yd ³ @ \$10/yd ³	800,000
Equipment ^c	5,000 hrs @ \$100/hr	500,000
Mob/Demob/Site Preparation ^d	4 weeks @ \$35,000/week	140,000
Supervision/Labor ^e	10 persons @ \$1350/week	513,000
TOTAL		\$2,113,000

Alternative 3 - Stabilization

Stabilization Materials ^f	18,500 yd ³ @ \$75/yd ³	\$1,387,500
Backfill Materials ^a	64,000 yd ³ @ \$2.50/yd ³	160,000
Equipment ^c	5,000 hrs @ \$100/hr	500,000
Batch Plant Rental	52 weeks @ \$10,000/week	520,000
Mob/Demob/Site Preparation ^d	6 weeks @ \$35,000/week	210,000
Supervision/Labor ^e	10 persons @ \$1350/week	702,000
TOTAL		\$3,479,500

Alternative 4 - Chemical Extraction/Physical Separation

Plant Construction ^h		\$2,200,000
Plant Operation - Labor ^e	19 persons @ \$1350/week	1,333,800
Plant Operation - Equipment	1200 hrs @ \$100/hr	120,000
Plant Operation - Materials	52 weeks @ \$6,000/week	312,000
Backfill Materials ^a	64,000 yd ³ @ \$2.50/yd ³	160,000
Backfill Equipment ^c	1200 hrs @ \$100/hr	120,000
Backfill Labor ^e	4 persons @ \$1350/week	108,000
Mob/Demob/Site Preparation ^d	10 weeks @ \$35,000/week	350,000
TOTAL		\$4,703,800

^a Based on approximate volume of 64,000 yd³ to fill the 3 cells

^b Based on a combined thickness of 8.5 feet (clay - 3 ft, drainage - 0.5 ft, cobble - 2 ft, & soil - 3 ft) over an average of 250,000 ft² to cover the 3 cells

^c Weighted average cost for front-end loader, bulldozer, and dump trucks

^d Includes mobilization, demobilization, and equipment decontamination

^e Based on 38 weeks

^f Based on approximate area of 250,000 ft² of the 3 cells and 2 feet of contaminated soil to be treated

^g Based on 52 weeks

^h Assumes common metals and materials will be required, includes start up

ⁱ Based on 20 weeks

Implementability

Alternative 2 can be readily implemented and is a commonly used technology. Alternatives 3 and 4 have been demonstrated in treatability studies and in field demonstrations, but have never been used to remediate a radiologically-contaminated site. Therefore, a treatability study would be required prior to implementation. Both Alternatives 3 and 4 require a treatability study which would take approximately 9 months.

Alternatives 3 and 4 would likely require pilot-scale testing to be conducted at the Warm Waste Pond. At that time, the most cost effective dust suppression methods, waste minimization techniques and the proper disposal procedures would be examined to minimize impact of the interim action to the environment. For Alternatives 2, 3, and 4, the new lined evaporation pond must be operational before significant cleanup can begin on cells currently in use.

Cost

Estimated costs are shown on page 7. It is assumed that none of the alternatives have significant operating expenses following completion of the remedial action. Alternative 2 would require minimal maintenance following completion of the remedial action. The estimated costs for Alternatives 3 and 4 are based on average costs for those technologies and would be verified in the treatability studies.

State Acceptance

IDHW has been involved in the preparation of this Proposed Plan and comments received have been incorporated. This Proposed Plan is issued with the concurrence of IDHW under the condition that concentrated residuals will be stored on site and visually monitored until a final remedial decision is reached.

Community Acceptance

Community acceptance will be evaluated after receipt of comments. The Agencies will review and consider public comments on this Proposed Plan and will incorporate comments in the decision process. The Responsiveness Summary portion of the Record of Decision for the Interim Action will provide responses to public comments. Verbal comments given at public meetings and written comments will receive equal consideration.

Summary of the Preferred Alternative

The Agencies recommend **Alternative 4 - Chemical Extraction/Physical Separation** as the preferred alternative for the interim action of the Warm Waste Pond sediments. This alternative is preferred because it best achieves the goals of the first eight evaluation criteria in comparison to the other alternatives. Community acceptance will be evaluated based on comments received and will be documented in the Record of Decision. Alternative 1 does not reduce the risk or expedite the total site cleanup. Alternative 2

INFORMATION REPOSITORIES

Additional information is contained in the Administrative Record for the interim action. Those documents can be reviewed at any of the information repositories listed below.

Idaho Falls Public Library
457 Broadway
Idaho Falls

Pocatello Public Library
812 East Clark
Pocatello

INEL Technical Library
1776 Science Center Drive
Idaho Falls

Boise Public Library
715 South Capitol Blvd.
Boise

Twin Falls Public Library
434 2nd Street East
Twin Falls

Moscow-Latah County Library
110 South Jefferson
Moscow

reduces the risk, but may not be a permanent remedy. Alternative 3 may interfere with total site cleanup. Alternative 4 offers a permanent remedy which provides short- and long-term effectiveness in reducing risk to human health and the environment. A treatability study is currently underway to determine the best methods to implement the preferred alternative and will be utilized in the remedial design. A pilot-scale test would likely be required and is assumed to be part of Alternative 4. EPA and IDHW will be involved in the review of the treatability test results and the establishment of cleanup levels.

If the preferred alternative is selected, the Record of Decision for this interim action will be contingent upon successful results being attained in the treatability study of chemical extraction and physical separation technologies. In order to meet the objectives of the cleanup, it is likely that the proposed alternative will have to reduce the concentration of the contaminants of concern by greater than 90% in the pond sediments. Final remedial action objectives will be established in the Record of Decision.

If unsuccessful, it is recommended that Alternative 2, Capping, be implemented. As shown in the comparative analysis of alternatives, Alternative 2 meets more of the seven criteria than Alternatives 1 and 3. Capping can be implemented in 1992 without a treatability study.

Public Involvement Opportunities

Public input is critical to the CERCLA and NEPA processes, and the Agencies encourage you to participate in the remedy selection process.

The following public involvement activities or opportunities have been, or will be, available:

Informational Meetings - Five meetings were held in June throughout Idaho. Comments received at those meetings were considered in the preparation of this Proposed Plan.

Public Meetings - During the 30-day comment period, five public meetings are scheduled as listed on the back page. Verbal comments will be accepted at those meetings on the Proposed Plan.

Written Comments - Written comments are encouraged and should be addressed to the DOE-Idaho Environmental Restoration Division office listed in the next column.

Questions - If you have questions concerning the Proposed Plan or other INEL issues, please call the INEL Community Relations Office at the phone number in the next column.

Information Repositories - Additional information is available at the information repositories listed in the box on the previous page.

The Agencies need your comments on this Proposed Plan and the Preferred Alternative presented. All comments, verbal or written, will be addressed in the Responsiveness Summary portion of the Record of Decision scheduled for the winter of 1991-1992.

Addresses

For submission of written comments:

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Acronyms and Glossary

Action Plan - Document which defines the schedule and procedures for implementing the Interagency Agreement (IAG), the agreement between DOE, EPA, and the State of Idaho implementing CERCLA at the INEL.

Administrative Record - Documents including correspondence, public comments, Record of Decision, technical reports, and others upon which the Agencies base their remedial action selection.

ARARs - (Applicable or Relevant and Appropriate Requirements) - The federal and state laws that are legally applicable or relevant and appropriate under the circumstances.

area of contamination - The aerial extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the remedy.

CERCLA - (Comprehensive Environmental Response, Compensation, and Liability Act, commonly called Superfund, implemented by 40 CFR 300) - Act which establishes a program to identify sites where hazardous substances have been, or might be, released into the environment and to ensure that they are cleaned up.

Environmental Assessment - A public document prepared under NEPA which briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

HWMA - (Hazardous Waste Management Act) - Idaho's law which governs hazardous waste.

interim action - Actions to remediate sites in phases using operable units as early actions to eliminate, reduce, or control the hazards posed by a site or to expedite the completion of total site cleanup.

mrem - One-thousandths of a Roentgen-equivalent-man, a unit of radiation which correlates to biological damage in the human body due to radiation.

NCP - (National Contingency Plan, 40 CFR 300) - The basic policy directive for federal response actions under CERCLA, including the procedures and standards for responding to releases of hazardous substances.

NEPA - (National Environmental Policy Act, implemented by 40 CFR 1500) - Act which requires

Federal agencies to consider the environmental impacts of major Federal actions affecting the quality of the human environment.

NPL - (National Priorities List) - A list of sites designated as needing long-term remedial cleanup, whose purpose is to inform the public of the most serious hazardous waste sites in the nation.

Operable unit - Separate response measures, consistent with a permanent remedy utilized to facilitate faster action at sites.

picocurie - One-trillionth of a curie.

Proposed Plan - Document requesting public input on a proposed remedial alternative.

RCRA - (Resource, Conservation and Recovery Act, implemented by 40 CFR 260) - Act which defines hazardous waste and the requirements for dealing with hazardous waste.

Responsiveness Summary - The part of the ROD (see below) which summarized significant comments received from the public and provides the Agencies an opportunity to comment "on the record".

RI/FS - (Remedial Investigation/Feasibility Study) - A document which describes the characterization of the nature and extent of contamination and the evaluation of potential remedial options.

Risk Assessment Scenarios - The different settings which are evaluated for risk. For example, the external exposure risk assessment scenarios for the human health risk evaluation for this Proposed Plan ranged from 365 days a year, 40% of the time, for 40 years, to 1 hour per day, 5 days per week, for one year.

ROD - (Record of Decision) - Document which is a consolidated source of information about the site, the remedy selection process, and the selected remedy for a cleanup under CERCLA. Contains the Responsiveness Summary (see above).

SARA - (Superfund Amendments and Reauthorization Act) - Act signed into law in 1986 and which increases the level of public and state involvement in the CERCLA process.

PUBLIC COMMENT NEEDED ON CLEANUP

DOE, EPA and IDHW are currently seeking public comment on a Proposed Plan to cleanup the sediments of the Warm Waste Pond at the Test Reactor Area at the Idaho National Engineering Laboratory. This Proposed Plan describes the alternatives considered and the alternative preferred by DOE, EPA and IDHW.

The Public Comment Period is July 29 - August 28, 1991. Written comments can be sent to Jerry Lyle, Director of the Environmental Restoration Division of DOE-Idaho at the address on page 10. Verbal comments will be recorded at each of the public meetings listed below.

PUBLIC MEETINGS ON PROPOSED PLAN (all at 6:30 pm)

Idaho Falls - Tuesday, August 7, 1991 at the Westbank Inn.

Pocatello - Wednesday, August 8, 1991 at the Quality Inn.

Twin Falls - Tuesday, August 13, 1991 at the Canyon Springs Inn.

Boise - Wednesday, August 14, 1991 at the Boise Public Library.

Moscow - Thursday, August 15, 1991 at the University Inn.

